EVALUATION OF ERTS DATA

FOR CERTAIN OCEANOGRAPHIC USES

January/February 1973 - Progress Report
ERTS Proposal #106
GSFC I.D. #CO309

1. Work Summary During Fifth Bimonthly Reporting Period

Considerable time was spent preparing for the March ERTS-1 Symposium. Thermal scanner data became available from Daedalus from the October field trip. Multiband camera data from the Spectral Data camera was viewed at Hicksville, N.Y. and certain frames were selected for color compositing.

We have successfully processed several Computer Compatible Tapes at NESS and redisplayed the grey scale for enhancement of the low radiances characteristic of water bodies. This enhancement brings out considerable detail in the surface water that is unavailable in the original Goddard images. The algal bloom that was reported on in the last progress report was substantially enhanced to the point that a great deal more detail was found over much of Lake Erie in MSS-6. This detail is not evident in either MSS-5 or MSS-4 where, in fact, a totally different pattern prevails.

Just recently we have begun digitizing NOAA-2 VHRR data that was retained during ERTS-1 winter visits of Lakes Ontario and Erie. In addition, on two occasions in Jan-Feb we were fortunate in having Canadian ART flights over Lake Ontario. In this regard a paper is being prepared for delivery at the 14th Conf. on Great Lakes Research in April.

Substantial ice cover was observed in Lake Erie on the 13 January ERTS visitation. Maximum concentrations were observed late in February in what will undoubtedly be classified as a "light-ice year." During a

brief period in mid-February ice cover could be seen in Lake Ontario extending several miles from shore.

Finally, we would like to state that "Murphys Law" was not in effect for us this winter. Cloud-free periods seemed to occur in synchronization with ERTS-1 coverage. (Some might call this a "significant result"!)

2. Expected Accomplishments During Next Reporting Period

a. Spectral Data Multiband Camera photography has been promised for delivery and will be analyzed with the Daedalus Thermal data.

b. We will continue to process CCDT's over significant targets in Lakes Ontario and Erie.

c. Comparisons of NOAA-2 VHRR and ERTS data will begin.

d. With increasing probability of spring-cloud-free conditions several ERTS/VHRR data acquisition periods will be attempted.

e. An extensive spring study period will not involve aircraft flights (budgetary reasons). This loss should not effect our study as Lake Erie ice breakup has already been observed, complete with VHRR, on two successive days. This provides considerable overlap for ice movement to be observed. Ice deterioration was undoubtedly rapid during this time as Ohio weather stations were recording air temperatures near 20°C.

3. Problems

No noteworthy difficulties have been encountered during this study period.

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